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Kübler, Daniel

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Citizenship in the fragmented metropolis: an individual-level analysis from Switzerland

Daniel KÜBLER

*Department of Political Science and Centre for Democracy Studies
University of Zurich, Switzerland*

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Author contact information:

Prof. Dr. Daniel Kübler
Department of Political Science
University of Zurich
Affolternstrasse 56
CH - 8050 Zürich
Tel: +41 44 634 38 86
Email: Daniel.Kuebler@ipz.uzh.ch

Content

1. Introduction	3
2. City regions in Switzerland	4
3. Citizens in city-regions: conceptual considerations	5
3.1 The scales of place attachment and political interest in city-regions	6
3.2 Attitudes towards city-regional institutions	7
3.3 Perception of government and democratic legitimacy in city-regions	8
4. Exploring the citizen perspective on city-regions	9
4.1 Sample	9
4.2 Hypotheses, operationalization and measurement	10
5. Findings	14
5.1 Scales of place attachment and political interest: towards a city-regional orientation	14
5.2 Attitudes towards city-regional institutions	15
5.3 City regions and democratic legitimacy	17
6. Discussion	19
7. References	21
8. Tables and Figures	25

Abstract

Based on a survey of 2010 citizens in four large metropolitan areas in Switzerland, the analysis presented in this article shows that spatial mobility of citizens across municipal borders leads to an up-scaling of their territorial identities at the level of the city-region. On the one hand, this results in a favourable attitude towards encompassing institutions at the city-regional scale. On the other hand, given the high degree of institutional fragmentation prevailing in Swiss city regions, strong city-regional orientations lead to a delegitimation of the local political system. Without adequate reforms of the territorial institutional framework the ongoing growth and functional integration of city-regional spaces will lead to political alienation and increasingly challenge the democratic legitimacy of the local state in Switzerland. More generally, the article shows that the long-running debate on metropolitan governance should focus, more thoroughly than in the past, on issues of citizenship and democratic legitimacy.

1. Introduction

In many countries across the world the twin forces of globalisation and urbanisation have led to the emergence of urban regions as functionally integrated territorial systems of economic production and social reproduction. These city-regions not only constitute the spatial environment for an increasing majority of the world's citizens (Hoffmann-Martinot & Sellers, 2005), they also become increasingly relevant as spaces for policies and politics (Sellers, Kübler, Walter-Rogg, & Walks, 2013). City-regions - or metropolitan areas, as they are often called - are the gateways to the world economy and, as such, crucial for globalised capitalism. They are the "political place where the dirty work of globalisation is being done" (Keil, 2000: 248), i.e. where public policies are defined and implemented in order to ensure the competitiveness of national economies at a global level.

Metropolitan areas have mainly grown by spatial expansion, irrespective of institutional boundaries. As a result, they nowadays encompass large numbers of different jurisdictions and are thus characterised by high governmental fragmentation. The incongruence between functional spaces and institutional territories has sparked a long-running debate on the organization of governance in metropolitan areas (for an overview see Lefèvre, 1998; Ostrom, 1972; Savitch & Vogel, 2009). Mainly focused on a policy-making rationale, the bulk of this debate has concentrated on economic concepts (Swanstrom, 2001), i.e. the extent to which institutional fragmentation hampers or fosters effectiveness, efficiency or equity in public service provision at the metropolitan scale, or the contribution of policy-networks to the competitiveness of the metropolitan economy at a global scale. This is, arguably, a very limited perspective. Social and political life in modern societies cannot be reduced to issues related to the provision of public goods or services by the state. The role of the citizens has, however, received insufficient attention in the debate on metropolitan governance so far (Lidström, 2013).

The goal of this article is to show that the debate on issues of metropolitan governance is fundamentally incomplete if it does not consider the effects that city-regional functional integration has at the level of the individual citizens who live therein. Drawing on a citizen survey conducted in four large metropolitan areas in Switzerland, the article will show that the functional integration of city-regions leads to a re-scaling of citizens' territorial identities, and that this has important implications for politics and democracy in city-regions. The first section of the article exposes the structural context of the four city-regions under scrutiny. The

second section addresses theoretical considerations and identifies three sets of research questions. The third section describes the database, as well as hypotheses and variables. The fourth section presents the findings, which are discussed in the conclusion.

2. City regions in Switzerland

On the basis of functional criteria - mostly commuter patterns - the latest available territorial statistics identify fifty metropolitan areas in Switzerland (Schuler, Dessemondet, & Joye, 2005)¹. These metropolitan areas host nearly three quarters of the country's population. They have expanded regardless of institutional borders and, today, spread over the territory of large numbers of local jurisdictions. Some of them also stretch across cantonal and even national borders. In terms of population, the core cities typically account for one third of the overall population in a given metropolitan area. In international comparison metropolitan areas in Switzerland are characterized by a very high degree of geopolitical fragmentation (Hoffmann-Martinot & Sellers, 2005). This is also the case for the four metropolitan areas under scrutiny in this study: Zurich, Lausanne, Lucerne and Lugano (Table 1).

- *Insert Table 1 about here*

The institutional fragmentation of metropolitan areas in Switzerland results in a lack of congruence between functional urban spaces and jurisdictional territories. This situation has led to the emergence of a number of public issues, debated as 'metropolitan area problems' ('Agglomerationsprobleme', see Bassand, Joye, & Schuler, 1988) since the 1980s. A hot topic in this public debate is notably the extra burden faced by core cities due to spill-over effects related to public infrastructure or services that are of city-regional interest but catered for essentially by the core cities. These spill-over effects are particularly present in the fields of policing, culture and leisure, health, roads and transport, as well as welfare (Walter & Amacher, 2013). They are seen to distort inter-municipal tax competition within metropolitan areas and thereby contribute to income sorting and social segregation (see Schaltegger, Somogyi, & Sturm, 2011). Other issues relate to the numerous mechanisms of inter-municipal cooperation, set up to coordinate public policies at the city-regional scale. Metropolitan municipalities in Switzerland today take part in high quantities of intergovernmental

¹ The Swiss Statistical Office uses the term of 'agglomeration' (*Agglomeration* in German, *agglomération* in French and *agglomerato* in Italian) to describe functionally integrated urban spaces (Schuler, 1994). Conceptually, this analytical category is very similar to the notion of 'metropolitan area' used by the US Census bureau (Hoffmann-Martinot & Sellers, 2005), which is while we will use the term of metropolitan area as the English synonym in this article.

cooperation schemes and coordination costs are high (see Kübler, Sager, & Schwab, 2005; Schenkel, 2001).

Since the early 2000s, policy responses to these issues were formulated by the federal government but also by many cantons - the second tier in the three-levelled Swiss federalism. These policy responses included new regimes for tax base sharing within and across metropolitan areas, new institutional models to facilitate intergovernmental coordination at the metropolitan scale, as well as support to territorial reforms via municipal amalgamations (see Kübler, 2014).² These policy responses followed a somewhat functionalist, governmental rationale: they were targeted mainly at limiting competitive distortions and reducing coordination costs. As a consequence, they have been criticized for failing to address the democratic deficit of metropolitan policy-making in Switzerland which is, still, mainly based on intergovernmental coordination (Kübler, 2013). Indeed, issues of democracy and citizen participation are not at the core of the public debate on the governance of metropolitan areas in Switzerland.

3. *Citizens in city-regions: conceptual considerations*

Modern democratic theory rests upon the assumption of a “‘symmetrical’ and ‘congruent’ relationship between political decision-makers and the recipients of political decisions” (Held, 2006: 290). More precisely, a symmetrical and congruent relationship is assumed to exist “first, between citizen-voters and decision-makers whom they are [...] able to hold to account; and second, between the ‘output’ (decisions, policies etc.) of decision-makers and their constituents” (Held, 2006: 290). City-regions are a significant challenge to this symmetry and congruence. Citizen-voters, as they move around in the functionally integrated urban space, are affected by policies decided outside their municipality of residence where they are entitled to vote and hold decision-makers to account. From a citizen perspective, three issues are important: the scalar scope of place attachment and political interest as an important structural condition for citizen engagement, the attitudes towards institutional solutions to public problems in city-regions, as well as legitimacy perceptions of the local political system.

² Due to their voluntary nature and widespread skepticism, territorial reforms remained rather limited. Only in the metropolitan area of Lugano, the merger of eighteen suburbs with the core city (eight suburbs merged in 2004, three in 2008, seven more in 2013) contributed to a significant reduction of the institutional fragmentation.

3.1 The scales of place attachment and political interest in city-regions

Work in environmental psychology has shown that individuals' *attachment to place* is an important predictor of social behaviour and political engagement. Affective bonds between people and place inform social identities and value orientations, and it thereby follows that "people's bonds with those places will impact their engagement in such places, whether it be to maintain or improve them, respond to changes within them, or simply to stay in that place" (Manzo & Perkins, 2006: 337). An affective attachment to a place shapes individual concerns, preferences and motives for political action. It is an indicator for a feeling of belonging to a community who live in that same place and with whom one shares the emotional ties to that place. At the social level, thus, place attachment translates into a sense of community, which is crucial to foster feelings of political efficacy important to political participation. This is why environmental psychologists tend to consider that place attachment, similar to social capital, is a crucial community asset: "shared, place-based values are an essential ingredient in well-functioning communities" (Manzo, 2003: 343). It is clear, however, that people-place relationships are a dynamic phenomenon and change throughout the life course. Most importantly, place attachment evolves as people experience different places: "What begins as undifferentiated 'space' evolves into 'place' as we come to know it better and endow it with values" (Manzo, 2003: 49). People thus develop attachment to place(s) via their everyday spatial practices.

These considerations emphasise the complex nature of place attachments in city-regions. On the one hand, individuals reside in municipalities that constitute fully fledged political communities with territorially delineated formal institutions. We can assume that residence, spatial experience of immediate surroundings, but also participation in political processes at the local level foster affective bonds with the municipality of residence. On the other hand, people move around in the city-region as they commute to work, go shopping or visit friends and family in other municipalities. They thus experience the space of the city-region beyond their municipality of residence, and we can expect that the functional 'space' of the wider city-region thereby evolves into 'place'. Depending on everyday spatial practice, people will develop emotional ties and affective bonds with the city-regional space beyond their municipalities of residence. Citizens in city-regions are thus likely to feel attached to places at two different scales: one municipal and one city-regional or at least inter-municipal. Both are important to citizens' political identities, attitudes and behaviour - although it is as yet unclear in what way. Provisionally, we can assume that place attachment at these two scales are

interrelated. Indeed, an intensive spatial experience of the wider city-region necessarily means spending less time in the municipality of residence. The functional integration of city-regions can thus be expected to affect the scalar order of citizens' place attachments, as high levels of attachment to the wider city-region might go along with lower levels of attachment to the municipality of residence.

A second important element for citizens' political engagement is their *interest in politics*. Citizens' institutional and non-institutional forms of political participation tend to be positively associated with political interest (van Deth, 2013). Political interest itself depends on a range of different factors. The ample literature on the matter has shown that socialisation plays a role (i.e. the political interest of parents), education (i.e. the ability to process information about politics), age (mainly as a function of past experience in observing political processes), as well as gender (women are usually found to be less interested in politics than men), but also social contacts (e.g. membership in associations, church attendance or neighbourhood contacts) (van Deth, 2013: 286). Much less is known, however, on the scalar scope of political interest. Scientific evidence shows that interest in politics of different subnational state levels is related to the characteristics of central-local relations in national political systems more generally (Hayes & Bean, 1993). But individual factors also play a role; for instance, due to gendered differences in the territorial scope of social contacts, women were found to be more interested in local politics while men are more interested in national and international politics (Coffé, 2013).

Interest in the politics of the municipality of residence thus seems to be related to one's integration into relations of proximity. It is therefore plausible to assume that spatial mobility of citizens within the city-region also affects their political interest for the municipality of residence. Activities outside the municipality of residence might delocalise personal networks and thereby contribute to shifting the scope of political interest towards other territories.

3.2 Attitudes towards city-regional institutions

Functional integration of city-regions, due to the increase of spatial mobilities, might thus lead to a scalar shift of citizens' place attachment and political interest by which territorial allegiances and political identities are reconstructed. A classic argument holds that commuting between different municipalities destroys ties of community, de-attaches citizens from the existing political institutions, reduces political engagement and fosters alienation from politics (Wood, 1958: 121). Empirical evidence in support of this argument has been provided by Lowery et al. (1992) in a study focusing on citizens' reaction to service

dissatisfaction. They show that the more citizens feel attached to their locality of residence, the more they react constructively when they are dissatisfied with governments services (i.e. they more often opt for 'voice' or 'loyalty'), while low levels of attachment tend to foster destructive reactions (i.e. they opt for 'exit' or 'neglect'). And feelings of attachment to their locality, Lowery et al. find, are directly linked to the institutional landscape of a metropolitan area: the higher institutional fragmentation, the lower is citizen's attachment to their locality - arguably because spatial mobility beyond municipal borders is more frequent. Other studies also provide evidence for a negative impact of commuting on turnout in municipal elections in some national contexts (Sellers, Kübler, Walks, Rochat, & Walter-Rogg, 2013). The effect is not uniform across countries and mainly depends on the entwinement of local and national politics. It is stronger in countries where political dynamics at the local level are independent from those at the national level.

In the Swiss context, local politics is quite independent from national politics. It is thus plausible to assume that citizens in city-regions loosen political allegiances with their municipality of residence, as they increasingly commute across municipal borders. As they thereby develop place attachment and political interest at the city-regional scale, they construct allegiances at new spatial scales. In particular, they might develop a sense of community at the city-regional scale, which, although not institutionally delineated, is perceived as a community of fate. Such a city-regional sense of community could, in particular, influence on political attitudes and behaviour in the discussion of public problems related to the institutional structure and the suggested solutions.

3.3 Perception of government and democratic legitimacy in city-regions

But the scalar shift of place attachment and political interest not only relates to the emergence of a new sense of community at the level of the city-region. In the absence of political institutions at the city-regional scale, this re-scaling of citizens' spatial orientations also entails the problem that citizens might find it difficult to identify the government(s) and/or decision-maker(s) responsible for the broad range of public services provided at the city-regional scale by 'crazy quilts' of intergovernmental cooperation: "it is easy to lose one's bearings, and one's interest, when there is no central political authority to provide a focal point" (Dagger, 1981: 725). Indeed, a study of Lowery et al. (1990) on the ability of individuals to correctly attribute responsibility for service provision found that citizens living in institutionally fragmented metropolitan areas have greater difficulties to correctly identify the agencies responsible for a given number of public services, as compared to citizens living

in consolidated metropolitan areas. This not only hampers citizens' possibilities to hold decision-makers to account, but also makes it easier for the latter to shift blame for policy failures or poor service performance to agencies who are not actually responsible, or by attributing praise for good performance to themselves even though they are not formally in charge. It flows from this argument that incongruence between decision-makers and their constituents in city-regions is likely to affect the relationships between citizens and governments more generally. The difficulties of holding decision-makers to account might lead to citizens perceiving governments as less responsive to their needs and demands. These difficulties might also reduce satisfaction with services, due to the complexity and opacity of mechanisms by which citizens can give feedback on service quality to decision-makers. Ultimately, a perceived lack of government responsiveness and low levels of service satisfaction might lead to endangering the legitimacy of the wider political order, in the sense of “diffuse system support” (Easton, 1965) consisting of “supportive attitudes and favourable evaluations of the political regime, that is, the non-partisan institutions, procedures, norms, and values of the polity” (Kaase & Newton, 1995: 168).

However, research into citizens' views of government responsiveness, service quality and overall legitimacy has shown that these perceptions are strongly shaped by citizens' feelings of attachment and belonging to a wider political community. If citizens have a strong sense of community, they will evaluate government responsiveness more positively because they expect the community to consist of large numbers of individuals who will speak up with one voice and therefore oblige government officials to be more receptive (Anderson, 2010). High levels of community attachment are also viewed to have a positive effect on service satisfaction, because individual investment in a community is related to generally positive and optimistic attitudes which also extend to service evaluations (DeHoog, Lowery, & Lyons, 1990). Hence, territorial scales of attachment will arguably also affect citizens perceptions and evaluation of governments and services at these scales.

4. *Exploring the citizen perspective on city-regions*

4.1 Sample

The analysis uses two sources of data. On the one hand, individual level data was collected via a telephone survey in the four Swiss metropolitan areas of Zurich, Lausanne, Lucerne and Lugano (Table 1). In each metropolitan area, a representative sample of Swiss citizens aged between 18 and 74 was interviewed by computer assisted telephone interviewing (CATI)

technique according to a standardized questionnaire in three different languages (French, German, and Italian). The overall survey includes 2010 respondents, roughly 500 in each metropolitan area (Table 2). The original questionnaire form (in French), technical details on the sampling procedure, as well as an assessment of sample representativeness is published in Kübler (2005).

On the other hand, the analysis uses contextual data on socio-demographic, geographic, and institutional aspects of the four metropolitan areas and the municipalities of residence of survey respondents. This contextual data was obtained from the Swiss Statistical Office and is based on the Population Census.

Besides general descriptive statistics, the analysis largely rests on multi-level modelling techniques (mixed-effects linear regression for continuous and ordinal variables and mixed-effects logistic regression for the dichotomous variable). Indeed, as will be reported in the findings section, an examination of intraclass correlations shows that the answers of survey respondents living in the same municipalities resemble each other significantly. All analyses were made with Stata SE 12 for Windows.

4.2 Hypotheses, operationalization and measurement

The analysis explores three questions: the scalar scope of citizens' place attachment and political interests, citizens' sense of community at the city-regional level, as well as their perceptions of governments, services, and local democracy. Each of these three questions was operationalized by a set of dependent variables, and their relationship to a set of independent variables was tested (the details of variable specification are given in Table 6).

Dependent variables

To explore the scalar scope of place attachment and political interest, two dependent variables were specified. The first variable *city-regional scope of attachment* is defined as the difference between respondents' attachment to their city-region and their attachment to the municipality of residence. Low values denote stronger attachment to the municipality while high values express stronger attachment to the city-region. The second variable, *intermunicipal political interest*, is calculated by subtracting the level of interest respondents expressed in politics in their municipality of residence from the interest they expressed in politics of other municipalities located in the city-region. Low values mean that respondents' political interest is turned towards the municipal scale while high values denote interest in politics at the city-regional scale.

The two variables used to measure citizens' attitudes towards city-regional institutions - the second question explored in this analysis - are based on citizens' opinions in the public debate about reforms aimed at creating more encompassing institutions as a response to the growing incongruence between functional and institutional territories in Swiss city-regions. This debate has intensified in the late 1990s (Geissmann, 2003). It mainly revolves around the question of whether or not city-regions should be considered as functional communities of fate that need an adequate institutional architecture. Positions in this debate relate, first of all, to matters of territorial reforms. Most radical reformers advocate the amalgamation of suburban municipalities with the core city. Less radical reforms suggest the creation of a new tier of city-regional government - inspired by the metro model (Sharpe, 1995). Moderate reformers recommend forcing municipalities to cooperate. The status quo simply consists in allowing municipalities to cooperate if they want to. We posit that respondents favourable to institutional reform have a stronger sense of community at the city-regional level than those who prefer the status quo. A first dependent variable thus measures whether citizens have a *favourable opinion to metropolitan territorial reform*. A second core aspect in the public debate on the governance of Swiss city-regions relates to the municipal tax-regime. Swiss federalism institutes large autonomy to municipalities in fiscal matters, and they have the competence to set their own tax rate. As a consequence, inter-municipal fiscal competition is high in Swiss city-regions, and spill-over effects have typically resulted in high rates of municipal taxes in core cities while residents in suburbs are taxed at lower rates. The reform position here consists in advocating the strengthening of inter-municipal fiscal equalization in order to constrain wealthy suburban municipalities to share their tax-base with the core city. We posit that support for this position expresses a sense of community at the city-regional level. The second dependent variable therefore measures respondents' *opinion on increased tax-base sharing between suburbs and the core city*.

Following the distinction between input and output legitimacy as major components to overall legitimacy (Scharpf, 1970), three dependent variables were defined to explore the third question. First, external political efficacy is used as a proxy for input legitimacy, and was operationalized as respondents' *beliefs on the responsiveness of the municipal government* with respect to citizen demands. Second, service satisfaction is used to gauge output legitimacy, and operationalized as respondents' evaluations of a number of services in fields of municipal or intermunicipal responsibility: public transport, water supply, culture, social policy, child day-care as well as sports facilities. Third, in order to measure overall

legitimacy, we draw on Fuchs and Klingemann (1995) and use *satisfaction with democracy* as a reliable indicator for diffuse system support - which is warranted within the same national context (see Canache, Mondak, & Seligson, 2001; Linde & Ekman, 2003).

Independent variables and controls

Turning to the central independent variables, the theoretical considerations in the previous section suggest three main hypotheses that will be tested in the subsequent analysis.

First, we assume that the scale of citizens' place attachment and political interest is influenced by their spatial practices. As citizens move around in the functional city-region, city-regional 'space' turns into 'place' and will be endowed with values and political interest. The main independent variable, thus, is *spatial mobility* beyond the municipality of residence, which we operationalize as a factor combining respondents' answers to questions about job-related as well as leisure time-related commuting in the city-region. However, a number of control variables need to be considered. At the individual level, previous studies have shown that class (here: operationalized with educational status) and gender play a role, but also duration of residence in a given place, as well as housing status (i.e. homeownership) expressing dependence on one's current residence as compared with alternative places of residence (Manzo, 2003). With respect to contextual variables, the extant literature suggests that the size of a municipality is important for local place attachment and local interest - even though it is unclear in what way (van Deth, 2013). Finally, a number of contextual variables can be expected to interact with individual-level independents: due to the centrality functions of core-cities in the city-region, their residents are less likely to commute beyond municipal borders. The degree of municipal fragmentation of a metropolitan area influences the likelihood that commuting citizens cross municipal borders.

Second, we have argued that the scalar nature of citizens' place attachment and political interest influences their attitude towards the institutional structure of a city-region. The second hypothesis to be tested thus is that citizens' attitudes towards institutional reforms at the city-regional scale depends on their feeling attached to the city-region as a whole, as well as on their interest in politics at the city-regional scale. Control variables at the individual level involve the usual socio-demographic suspects, such as age, gender and education. At the contextual level, the size of the municipality of residence needs to be controlled for, as functional links to the wider city-regions are more obvious in small municipalities than in larger ones. Additional control variables relate to particularities of the two variables which we used to measure the attitude towards city-regional reforms. At the individual level, positions

in the public debate on institutional reforms in Swiss metropolitan areas are likely to be influenced by the left-right scale: left parties are more favourable to such reforms than right parties. At the contextual level, the extent to which the municipality of residence is thought to be affected by reform proposals can be assumed to play a role. While core cities would generally benefit from tax-base sharing, suburban municipalities with low tax rates would be the ones to face increased expenditures. At the metropolitan level, high degrees of institutional fragmentation can be seen to exacerbate problems: citizens in highly fragmented metropolitan areas can therefore be expected to be more favourable to reforms. Finally, the public debate on institutional reforms differs between the four metropolitan areas under scrutiny and so do, most likely, citizens' opinions about them. We thus need to control for the differing opinion-environment on these reforms across the four metropolitan areas.

Third, we have argued that the congruence problem of institutionally fragmented but functionally integrated city-regions makes citizens lose their bearings and deteriorates their evaluation of political authorities and their performance. The underlying hypothesis here is that, in the absence of a political authority at the city-regional level, the shift of citizens' spatial orientations to the scale of the city-region makes them perceive governments as less responsive, evaluate service quality as poorer, and be less satisfied with democracy in general. Control variables at the individual level include socio-demographics such as age, gender and education, but also internal political efficacy, i.e. the feeling of having a say in political decision-making which are all known to influence perceptions of government responsiveness (Anderson, 2010), evaluations of service quality (DeHoog et al., 1990), as well as satisfaction with democracy (Stadelmann-Steffen & Vatter, 2012). At the level of the municipality, contextual variables to be controlled for encompass, first of all, the size of the municipality: trust in government and political engagement is generally higher in smaller municipalities (Oliver, 2000; Sellers, Kübler, Walks, et al., 2013), but public services are found to be more professional in larger municipalities (DeHoog et al., 1990). The distinction between core-cities and suburbs is also important. Media coverage of local politics is more comprehensive in core-cities than in suburbs (Kaniss, 1991) which improves conditions of public accountability there. And due to the centrality function of core-cities within their city-regions, the levels of services can be assumed to be higher there than in the suburbs. The municipal tax rate is a control variable that can be assumed to influence respondents' evaluations of service quality, as it can be argued that citizens evaluate services and taxes as a package (Tiebout, 1956). Finally, at the city-regional level the degree of institutional fragmentation needs to be

taken into account, in that it expresses the variance of the basic contextual condition of the causal mechanism under scrutiny. An additional control variable, for the evaluation of service quality, is the average perception of the level of services which can vary quite considerably across city-regions. Finally, in the Swiss context the characteristics of the wider political culture need to be taken into account. Citizens in the German speaking regions of the country are known to be less critical towards political authorities than what is the case in the French and Italian speaking regions (Kriesi, 1996).

5. Findings

- insert Table 2 about here

5.1 Scales of place attachment and political interest: towards a city-regional orientation

The descriptive statistics suggest that, overall, the municipality is a more relevant scale of place attachment and political interest than the city-region - the values for the overall sample are negative (Table 2). A closer look however shows a differentiated pattern within metropolitan areas. Respondents living in core cities are generally more oriented towards their municipality than towards the city-region, but the reverse is true for respondents residing in suburban municipalities, who have a stronger city-regional orientation. The Lugano metropolitan area, however, is an exception to this general pattern: intermunicipal political interest here is stronger in core-city residents.

An exploration of the intraclass correlation of the dependent variables shows that a significant portion of the variance is explained by differences between the municipalities (6.8% for city-regional attachment and 8.7% for intermunicipal political interest). This suggests that both individual variables and contextual variables at the municipal level play a role in determining citizens' orientation towards the city-region.

- insert Table 3 about here

The results of the mixed-effects linear regressions (Table 3) clearly provide support for the first hypothesis on the importance of spatial practices for citizens' spatial orientations. Indeed, the more intense respondents' spatial mobility across municipal borders, the more their place attachment and political interest is oriented towards the scale of the city-region rather than towards their municipality.

Effects of the control variables also mostly go in the expected directions. Looking at the individual level variables, it appears that duration of residence in a given municipality is an important predictor: orientation towards the municipality is stronger in respondents who have lived longer in their municipality of residence - both in terms of place attachment and political interest. While class (i.e. educational status) does not play a significant role, the effect of age is not uniform. In older respondents, city-regional place attachment is higher, but intermunicipal political interest is lower. Gender only has a significant effect on place attachment: men are more likely to feel attached to the city-region rather than to their municipality. Homeownership is significant only with respect to the scope of political interest: homeowners are more interested in politics of their municipality rather than in politics of other municipalities.

Some of the contextual variables also have significant effects. Living in a core-city reduces city-regional orientations both in terms of place attachment and political interest. All else being equal, core-city residents are thus more oriented towards their municipality than suburban residents who appear to be more aware of the functional city-region. Neither population size of a municipality nor the degree of municipal fragmentation of the metropolitan area affect place-attachment, but both do affect intermunicipal political interest. Rather counter-intuitively, intermunicipal political interest seems to be higher in residents of larger municipalities. And intermunicipal political interest increases with institutional fragmentation of metropolitan areas.

5.2 Attitudes towards city-regional institutions

In order to gauge citizens' views on the institutional organisation at the scale of the city-region, we look at their opinions regarding reforms of the existing, fragmented governance structure. A comparison of means shows that roughly half of all respondents are favourable to territorial reforms (49.3%), and that they slightly lean in favour of a more comprehensive system of tax-base sharing between the core city and the suburban municipalities in their metropolitan area (a mean of 2.65 on a scale from 1 to 4) (Table 2). However, these overall values mask important variations both within and between the metropolitan areas under scrutiny. On the one hand, core-city residents are clearly more favourable both to territorial reforms and to strengthening systems of tax-base sharing. The straightforward explanation for this finding is that core-cities are likely to benefit more from such reforms than suburban municipalities, especially in terms of public finance. On the other hand, there are clear differences in levels of support for metropolitan governance reforms between the four

metropolitan areas. Respondents in the Lugano and Lausanne metropolitan area are more favourable to territorial reforms, while respondents in the Zurich and Lucerne metropolitan areas are more favourable to tax-base sharing. These differences can be seen to reflect the state of the public debate on these matters in each of the four metropolitan areas under scrutiny. Indeed, while in Lugano - and to a lesser extent also in Lausanne - territorial reforms had been on the political agenda for quite a while at the moment of inquiry, problems of metropolitan governance had been discussed mainly in relation with issues of intermunicipal financial equalization in Zurich and Lucerne (see Kübler, 2005: 95 ff.).

An examination of intraclass correlation of the two dependent variables, again, buttresses the necessity of a multi-level analysis. A significant portion of the variance is explained by the fact that respondents are nested within municipalities (6.7% for the opinion on territorial reforms, and 9.7% for the opinion on strengthening tax-base sharing).

- insert Table 4 about here

Results from the mixed-effects regressions provide evidence in support for the second hypothesis explored in this paper, namely that a city-regional orientation of citizens influences their attitudes regarding the institutional organisation of the city-region (Table 4). However, this effect is not uniform. While a city-regional scope of place attachment is a significant predictor for a favourable opinion about regional territorial reforms, intermunicipal interest is a predictor for a favourable opinion on strengthening tax-base sharing between suburban municipalities and core cities. This suggests that the two dependent variables capture two different dimensions of the attitudes towards institutional organisation at the city-regional level. Territorial reforms seem to raise questions of identity and are more determined by emotional ties with a given territory - captured by the notion of place attachment. The strengthening of tax-base sharing seems to be viewed rather as a technical problem of governance that people comprehend when they are conscious about the issues of governing at the city-regional scale - which requires interest in politics at the intermunicipal level.

Control variables also turned out to have significant effects, both at the individual and the contextual level. Age is significant, albeit in reverse directions for the two dependent variables. Older respondents are less favourable to territorial reforms - probably as a result of the identity issues related to municipal mergers - but they are more favourable to strengthening tax-base sharing mechanisms - which can be seen as an effect of political experience that raises consciousness for issues of governance at the city-regional level. Education is important, as respondents with higher education also prefer more encompassing

institutions at the city-regional level. Ideology also play a role, as self-placement on the left of the left-right scale is positively associated with favouring both territorial reforms and a strengthening of tax-base sharing.

Looking at municipal and metropolitan area level variables, it appears that both territorial reforms and stronger tax-base sharing are more often favoured by residents of core cities than suburban residents. Core cities can be seen to have stronger identities and therefore less to lose in territorial reforms than suburban municipalities. Similarly, they are the ones who would benefit from a strengthening of tax-base sharing mechanisms. The municipal tax rate is a significant predictor for the attitude towards territorial reforms: the higher the tax rate of the municipality in which respondents live, the more they are likely to favour territorial reforms. Finally, the opinion environment regarding governance reforms in the four metropolitan areas also turned out to be significant.

5.3 City regions and democratic legitimacy

In the descriptive overview of the values taken by the three variables used to capture problems of democratic legitimacy in the four metropolitan areas under scrutiny, some clear patterns emerge (Table 2). Overall, respondents have a rather positive perception of local officials' responsiveness (mean of 2.9 on a scale from 1 to 4), are rather satisfied with public services (mean of 15.92 on a scale from 4 to 24), and quite satisfied with democracy in their municipality of residence (mean of 3.12 on a scale from 1 to 4). Lower overall values in the Lugano and Lausanne metropolitan areas can be attributed to the political culture effect, as citizens in the German speaking region (where Zurich and Lucerne are located) are known to have a less critical attitude towards political authorities than those living in the French (Lausanne) or Italian (Lugano) speaking regions. There are also some variations between the core-cities and the suburban municipalities. Compared to core-city residents, respondents living in suburban municipalities generally have a more positive perception of government officials' responsiveness, and are more satisfied with democracy in their municipality. The reverse pattern appears with respect to service satisfaction, where core-city residents evaluate service quality more positively than suburban residents.

Intraclass correlation analysis shows that for all three variables, a significant portion of the variance is explained by differences between respondents' municipalities (10.5% for perception of government responsiveness, 4.0% for service satisfaction, 5.9% for satisfaction with democracy in the municipality).

insert Table 5 about here

The results of the mixed-effects regression models for the three dependent variables (Table 5) provide supporting evidence for the hypothesis that the emergence of a city-regional orientation with citizens leads to problems of democratic legitimacy in the Swiss context of highly fragmented territorial institutions. Indeed, a strong intermunicipal political interest has a negative effect on the perception of local government responsiveness, on service satisfaction, as well as on satisfaction with democracy in the municipality. In addition, city-regional attachment is negatively associated with service satisfaction. This indicates that citizens who are strongly oriented towards the city-region (at least in terms of attachment and political interest), simultaneously seem to consider their municipality as being of a lesser relevance and therefore perceive it as less responsive to their demands, less satisfactory as responsible service providers, but also as less legitimate as a democratic political institution. The emergence of city-regional orientations thus seems to threaten the legitimacy of the local state.

Beyond this main finding, a number of control variables have important effects - most of which go in the expected direction. Age is positively associated with all three dependent variables. Education is negatively associated with the perception of responsiveness and service satisfaction - probably denoting the effect of cognitive training on citizens capacities to critically evaluate political authorities - but not with overall satisfaction with democracy. As expected, the feeling of internal political efficacy also turned out to be a significant control variable: the more one feels able to influence the course of things in one's municipality, the more positively one evaluates government officials' responsiveness, service quality as well as democracy in general.

At the municipality level, the differentiation between core-cities and suburbs suggested by the descriptive statistics is not confirmed in the multivariate analysis. Rather, municipal size turned out to be important: it is positively associated with service satisfaction, but has a negative effect on satisfaction with democracy. Larger municipalities thus seem to provide better services, but smaller ones have a better democracy. As expected, the municipal tax rate is an important predictor for service satisfaction. Respondents in municipalities where taxes are high are less satisfied with services. The perceived level of services does not, however, have a significant effect on service satisfaction. With respect to the institutional structure of the city-region, municipal fragmentation has a negative effect on the perception of local government officials' responsiveness as well as on satisfaction with democracy - but no significant effect on service satisfaction. City-regions with a highly fragmented territorial

government structure provide a context in which problems of democratic legitimacy are particularly severe. Finally, the cultural effect is partly confirmed: in German speaking regions, respondents perceive local government officials to be more responsive than in the French and Italian speaking regions. But this cultural effect is neither confirmed for service satisfaction nor for overall satisfaction with democracy in the municipality.

6. Discussion

The motivation for the study reported in this article was to explore issues of city-regional institutions and governance from the perspective of the citizens. In order to do so, we examined the implications of city-regional functional integration in three areas relevant to this perspective: the emergence of city-regional orientations, the attitudes towards the institutional organisation at the city-regional scale, as well as the perceived legitimacy of the local political system.

With respect to citizens' city-regional orientations, the analysis provides clear answers to the questions raised by Lidström and Schaap (forthcoming). Spatial mobility beyond the municipality of residence is obviously a factor that leads to a reconstruction of citizens' territorial allegiances at the scale of the city-region, both in terms of emotional ties to place and political interest beyond the municipality of residence. Over time and based on everyday experience - but also residential mobility - citizens develop an attachment to the wider city-region and also invest this space with political meaning. This phenomenon is particularly present in the suburban zones of city-regions, and also seems stronger when institutional fragmentation of the city-region is higher. It shows that metropolitan areas are not just an analytical category in official statistics, but increasingly exist in citizens' minds, and make sense to them both emotionally and politically. These findings suggest that the ongoing functional integration of city-regional territories, which is based mainly on the densification of spatial flows of persons, goods and information, will also lead to strengthening citizens' city-regional orientations.

These city-regional orientations were also found to have implications for the other two areas of interest studied in this article. On the one hand, a city-regional orientation was found to foster favourable attitudes towards more encompassing institutions at the city-regional scale. Citizens with a strong city-regional orientation tend to view city-regions as a community of fate, as they share visions about a more integrated institutional framework and about

strengthening solidarity in city-regional relations of governance. The emergence of city-regional orientations with citizens thus seems to lead to a re-articulation of local and city-regional political identities and is, ultimately, conducive to the formation of a political community at a new, city-regional, territorial scale. On the other hand, the effect of city-regional orientations is consistently negative on all dimensions used to measure evaluations of legitimacy by the citizens. We have seen that metropolitan areas in Switzerland are characterised by high institutional fragmentation. Our findings suggest that, against this background, the emergence of city-regional orientations has negative implications for the democratic legitimacy of the local state.

Taken together, the findings presented in this paper emphasise a new topic of concern that merits more ample discussion in the long-running scientific debate on issues of metropolitan governance (Lidström, 2013). The functional integration of city-regions obviously transforms citizens' territorial political identities, which are not adequately captured if the institutional framework is as fragmented as it is in the Swiss case. Citizens who have strong city-regional orientations are politically 'out of place' - and their proportions are likely to grow as functional integration of city-regions increases. Without adequate reforms of the institutional framework commensurate with the new scales of political identity, the growth of city-regions will lead to political alienation and thereby increasingly challenge the democratic legitimacy of the local state.

For the Swiss case, our findings have clear policy implications. To maintain the quality of democracy in Swiss city-region, political institutions must shift scale upwards to the city-regional level - be it via amalgamations or via the creation of new city-regional institutions that include democratic participation rights. There have been some encouraging moves in this direction: the debate on municipal amalgamations in city-regions has gained speed, and two city-regions (Bern and Fribourg) have set up new two-tier institutions with a strong city-regional level (Kübler, 2014). However, successful reforms have remained rare and limited essentially to secondary and smaller city-regions.

Of course, our conclusions need to be qualified in the sense that the empirical evidence stems from a study conducted in one of the few countries with a truly localised political culture (Sellers, Kübler, Walks, et al., 2013: 426). We can assume that the findings for Switzerland remain valid for national contexts where local and national politics are similarly independent from each other- examples mentioned by Sellers et al. include the United States, Canada as well as Poland. However, it remains to be seen to what extent the conclusions also apply to

countries where local and national politics are more strongly integrated, and where political behaviour is thus less dependent on circumstances at the municipal or city-regional level - such as in France or Sweden. Interestingly enough, results of recent research conducted in two Swedish city-regions corroborates our conclusions on the Swiss case in that a strong inter-municipal political orientation were found to bring about political disaffiliation also in the Swedish context (Lidström, forthcoming).

More generally however, our study shows that the question of the institutional landscape in metropolitan areas is not just a question of service provision. The policy-making rationale of much of the metropolitan governance debate is therefore unwarranted. Instead, it is high time to acknowledge the relevance of the citizen perspective to investigate and discuss, more thoroughly than before, issues of citizenship and democratic legitimacy with respect to metropolitan governance.

7. References

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8. *Tables and Figures*

Table 1 : Socio-demographic and institutional characteristics of the four metropolitan areas of Zurich, Lausanne, Lucerne and Lugano (definition and data for 2000)

	Overall population	Number of municipalities	Municip. per 100'000 inh.	Core city share of metro population	Index of geopolitical fragmentation*
Zurich	1,080,728	132	12.2	33.6%	0.36
Lausanne	311,441	70	22.4	40.1%	0.56
Lucerne	196,550	17	8.6	30.2%	0.28
Lugano	136,032	77	56.6	21.9%	2.58

* Drawing on Zeigler and Brunn (1980) this index is computed as the number of communes per 100,000 inhabitants divided by the central city's share of the overall metropolitan population in percent.

Table 2 : Descriptive statistics of dependent variables, by metropolitan areas (core cities and suburbs distinguished)

Metropolitan area		Respondents	City-regional attachment (means)	Intermunicipal political interest (means)	Favourable to territorial reform (percent)	Opinion on increased tax-base sharing with core city (means)	Opinion on local government responsiveness (means)	Satisfaction with service (means)	Satisfaction with democracy (mens)
Zurich	Core city	210	-0.48	-0.60	43.8	3.36	2.92	17.50	3.17
	Suburbs	291	0.04	0.03	32.7	2.79	3.18	15.93	3.32
	<i>Overall MA</i>	501	-0.17	-0.23	37.3	3.03	3.07	16.59	3.26
Lucerne	Core city	210	-0.57	-0.52	47.6	3.19	3.06	16.84	3.19
	Suburbs	288	0.17	-0.11	34.9	2.72	3.14	15.92	3.16
	<i>Overall MA</i>	498	-0.14	-0.28	40.3	2.92	3.11	16.31	3.17
Lausanne	Core city	220	-0.09	-0.23	65.3	2.55	2.40	15.41	3.00
	Suburbs	291	0.11	-0.13	53.8	2.23	2.96	14.73	3.20
	<i>Overall</i>	511	0.02	-0.17	58.7	2.36	2.71	15.03	3.12
Lugano	Core city	177	0.01	0.03	62.5	2.39	2.75	16.43	2.98
	Suburbs	323	0.09	-0.00	59.2	2.23	2.72	15.45	2.91
	<i>Overall</i>	500	0.07	0.01	58.7	2.29	2.73	15.80	2.93
Overall (N=)		2010	-0.54 (1989)	-0.17 (2003)	49.3 (1980)	2.65 (1877)	2.90 1816)	15.92 (2010)	3.12 (1953)

Table 3: Predictors of city-regional attachment and intermunicipal political interest (mixed-effects linear regression; unstandardized coefficients)

	City-regional attachment	Intermunicipal political interest
<i>Fixed effects (individual level)</i>		
Age	0.00359* (0.00154)	-0.00361* (0.00153)
Gender (dummy for male)	0.113** (0.0407)	0.0152 (0.0402)
Level of education	-0.00173 (0.00656)	-0.00455 (0.00648)
Years in municipality of residence	-0.00821*** (0.00149)	-0.00457** (0.00147)
Homeownership	-0.0199 (0.0472)	-0.120* (0.0469)
Spatial mobility	0.157*** (0.0271)	0.111*** (0.0267)
<i>Random effects (municipality level)</i>		
Core city (dummy)	-0.321* (0.140)	-0.449** (0.170)
Municipal population (log)	0.0584 (0.0349)	0.103** (0.0385)
Municipal fragmentation (metro)	0.00336 (0.00199)	0.00578** (0.00220)
Constant	-0.620 (0.342)	-0.828* (0.373)
Variance individual level	0.0215415 (0.0115467)	0.050303 (0.0183893)
Variance municipal level	0.7842737 (0.0254678)	0.7636039 (0.0250568)
Number of individuals	1989	2003
Number of municipalities	181	181
Wald X2	98.76	79.91

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Predictors of attitudes towards city-regional institutional organisation: favourable opinion of territorial reforms (mixed effects logistic regression) and favourable opinion on increased tax base sharing with the core city (mixed-effects linear regression)

	Favourable of metropolitan institutional reforms (odds ratios, 95% C.I.)	Favourable of increased sharing of tax-base with core city (Unstandardised coefficients, s.e.)
<i>Fixed effects (individual level)</i>		
Age	0.992924* (0.98 - 0.99)	0.00639*** (0.00153)
Gender (dummy for male)	1.226364* (1.01 - 1.48)	0.0613 (0.0461)
Education	1.052032** (1.02 - 1.08)	0.0385*** (0.00743)
Left-right self-placement	0.9714294** (0.95 - 0.99)	-0.0194*** (0.00543)
City regional attachment	1.162999** (1.04 - 1.29)	-0.0381 (0.0257)
Intermunicipal political interest	0.9907913 (0.89 - 1.10)	0.0671** (0.0260)
<i>Random effects (measured at municipal level)</i>		
Core-city (dummy variable)	1.925748** (1.31 - 2.81)	0.288* (0.121)
Municipal population (log)	0.9037186 (0.79 - 1.02)	0.0241 (0.0353)
Municipal tax rate index	1.010275* (1.00 - 1.01)	-0.000198 (0.00215)
Municipal fragmentation (metro level)	0.998519 (0.98 - 1.00)	0.00161 (0.00278)
Favourable opinion environment (mean of dep. var. at metro level)	1.039944*** (1.02 - 1.05)	0.883*** (0.143)
Constant	0.1167794** (0.02 - 0.49)	-0.479 (0.546)
Var. level 1	-	0.0101974 (0.0091447)
Var. level 2	1.39e-07 (0.0685393)	0.9474791 (0.0316833)
<i>N individuals</i>	1957	1854
<i>N munic.</i>	179	180
<i>Wald X2</i>	144.68***	213.41***

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Predictors of perception of responsiveness of local government (input legitimacy), service satisfaction (output legitimacy), satisfaction with the functioning of democracy in the municipality (overall legitimacy) (mixed-effects linear regression; unstandardized coefficients and standard errors)

	Opinion on local government responsiveness	Satisfaction with services	Satisfaction with functioning of democracy in municipality
<i>Fixed effects (individual level)</i>			
Age	0.00366** (0.00120)	0.0274*** (0.00612)	0.00327** (0.00103)
Gender (male)	0.00562 (0.0360)	0.122 (0.185)	0.0598 (0.0308)
Education	-0.0131* (0.00577)	-0.0639* (0.0295)	-0.00369 (0.00495)
Feeling of internal efficacy	0.130*** (0.0189)	0.648*** (0.0967)	0.121*** (0.0162)
City-regional attachment	-0.0367 (0.0202)	-0.590*** (0.102)	-0.00406 (0.0173)
Intermunicipal political interest	-0.0779*** (0.0203)	-0.380*** (0.103)	-0.0459** (0.0173)
<i>Random effects (municipa level)</i>			
Core-city (dummy)	-0.160 (0.131)	-0.376 (0.386)	0.0836 (0.0997)
Municipal population (log)	-0.0329 (0.0322)	0.504*** (0.125)	-0.0594* (0.0258)
Municipal tax rate index	-	-0.0225** (0.00783)	-
Perceived service level (metro)		-1.139 (25.22)	
Municipal fragmentation (metro)	-0.00624** (0.00240)	0.0382 (0.241)	-0.00931*** (0.00192)
German speaking (dummy)	0.198* (0.0849)	3.312 (40.46)	-0.00848 (0.0670)
Constant	2.963*** (0.324)	27.41 (406.9)	3.479*** (0.261)
Variance individual level	0.0265378 (0.0107583)	1.31e-19 (4.56e-19)	0.0127507 (0.0068231)
Variance municipal level	0.540782 (0.0187385)	15.93581 (0.509962)	0.427567 (0.0142773)
<i>N individuals</i>	1772	1953	1900
<i>N municipalities</i>	177	181	181
<i>Wald X2</i>	154.77***	227.92***	139.75***

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6 : Description of variables

<i>Variable description</i>	<i>Operationalisation</i>	<i>Scale</i>
<i>Individual level variables (source: telephone survey Kübler (2005); questions translated from French)</i>		
City-regional scope of attachment	Reponse to Q8b minus response to Q8a Q8a: "To what extent do you feel attached to your municipality?" (response scale of 1 to 4) Q8b: "To what extent do you feel attached to the metropolitan area [X]?" (response scale of 1 to 4)	From -4 (most attached to municipality) to 4 (most attached to city-region)
Intermunicipal political interest	Responses to Q9A (suburban residents) and Q9B (core city residents) minus response to Q9a. Q9A: "What is your interest in the political life of [core city X]?" (response scale of 1 to 4) Q9B: "What is your interest in the political life of the municipalities within the metropolitan area [X]?" (response scale of 1 to 4) Q9a: "What is your interest in the political life of your municipality of residence?" (response scale of 1 to 4)	From -4 (intermunicipal interest strongest) to 4 (municipal interest strongest)
Opinion on metropolitan territorial reforms	Q13 "In the metropolitan area [X] there are problems that are beyond municipalities reach. There is a debate on various institutional reforms. Which one would you prefer?" 4 "Amalgamate suburbs with core city" 3 "Create metropolitan government" 2 "Force municipalities to cooperate" 1 "Let municipalities cooperate if they want" (=status quo)	Dichotomised: 0= status quo, 1=else
Opinion on increased tax-bases sharing between suburbs and core city	Q14b "Do you agree with the following statement: the city [core city of metropolitan area] should be compensated for the charges it bears and the services it provides for the whole metropolitan area"	From 1 ("strongly disagree") to 4 ("strongly agree")
Government responsiveness	Q29a "Thinking about the elected officials in your municipality, do you agree with the opinion that they are responsive to what citizens want?"	From 1 ("strongly disagree") to 4 ("strongly agree")
Service satisfaction	Sum of responses to Q18a to Q18f "Do you think that, where you live, the following services are well or badly managed: a) Public transport b) Water supply c) Cultural institutions d) Services for drug users e) Day care centres f) Sports facilities"	From 1 ("very badly managed ") to 4 ("very well managed")
Satisfaction with democracy	Response to Q28 "All in all, how satisfied are you with the functioning of democracy in your municipality of residence?"	From 1 ("not satisfied at all") to 4 ("very satisfied")

<i>Variable description</i>	<i>Operationalisation</i>	<i>Scale</i>
<i>Individual level variables (source: telephone survey Kübler (2005); questions translated from French)</i>		
Spatial mobility	Regression factor score of Q36, Q40a-d (suburban residents) / Q41a-2 (core city residents) Q36: "Do you work outside your municipality of residence?" Q40: "How often do you travel to core city [x] for [a: shopping / b: leisure (e.g. cinema) / c: associational activities / d: to see family]?" Q41: "How often do you travel to suburban municipalities in the metropolitan area [X] for [a: shopping / b: leisure (e.g. cinema) / c: associational activities / d: to see family]?"	1 "yes"; 2 "no" From 1 "never" to 4 "frequently"
Gender	Dummy variable	female = 0 male = 1
Education	Q42 "What is your latest school / professional education?"	From 1 ("primary school") to 8 ("University")
Duration of residence	Q 32 "Since when do you live in this municipality?"	Nb. of years
Homeownership	Q48 "Are you renting or do you own the flat/house in which you live"	Dummy for owner
Left-right self placement	Q44 "In politics, one often speaks of left and right. Where would you place yourself on a scale from 0 (left) to 10 (right)?"	From 0 (left) to 10 (right)
Internal political efficacy	Q30 "Do you think you can have an influence on the future of your municipality?"	From 1 ("no, certainly not") to 4 ("yes, certainly")
<i>Municipal level variables (source: Swiss statistical office, 2000 population census)</i>		
Centre	Dummy for core-city of a metropolitan area	
Ln(Population)	natural logarithm of population size	
Municipal tax rate index	Tax rate of the municipality of residence, indexed to the mean of all municipalities within the same metropolitan area (=100)	
<i>Metropolitan area level variables (sources: Swiss Statistical Office, 2000 population census, telephone survey Kübler (2005))</i>		
Municipal fragmentation	Number of municipalities per 100'000 inhabitants in metropolitan area	
Perceived service level	Metro level mean of individual sum of responses to Q17a to Q17c as well as inverted responses to Q17d to Q17f "Where you live, are there many, rather many, little or very little a) Public transport services b) Cultural institutions c) Sports facilities d) Problems to find day care centres e) Quality problems with the water supply f) Drug problems"	From 1 ("very little") to 4 ("many")
German language region	Metropolitan area located in the German speaking language region of the country	